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NEW MARINE MOLLUSKS FROM THE ANTILLEAN REGION

By Harald A. Rehder

In the course of identifying specimens sent in by correspondents of the United States National Museum, I have from time to time recognized forms that could not be assigned to any known species. While making these identifications I have also run across novelties in our collection that seem important enough to warrant their description at the present time.

Sincere thanks are due Dr. Paul Bartsch for his ever-ready assistance and to the following assiduous collectors whose interest and patience have made this paper possible: Dr. B. R. Bales, of Circleville, Ohio; Dr. T. Van Hyning, of Gainesville, Fla.; Maxwell Smith, of Lantana, Fla.; and Ted Bayer, of Gainesville, Fla.

Genus COOPERELLA Carpenter, 1864

COOPERELLA ATLANTICA, new species

PLATE 19, FIGURES 3–4

Shell small, thin, inflated, broadly oval, ends bluntly rounded, translucent whitish, smooth except for growth ridges; beaks slightly anterior and prosogyrate. In the left valve there are three thin divergent cardinal teeth, the central one bifid, while in the right valve there are two thin divergent cardinals; no laterals are present. Ligament external, rather short and broad, posterior to the umbones. Pallial sinus rather broad and reaching beyond the center of the shell.

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The type, U.S.N.M. No. 517058, was dredged off Peanut Island, northern Lake Worth, Fla., by Ted Bayer. It measures: Length, 6.5 mm.; height, 4.8 mm.

This, the second known species of *Cooperella*, extends the range of the genus into the Antillean region. It differs from the type, *C. subdiaphana* Carpenter of the west coast, by being smaller, more translucent, and more equilateral.

Genus PITAR Römer, 1857

NANOPITAR, new subgenus

Shell small, suborbicular, externally smooth. Left posterior cardinal thin, high, joined in part to the ligamental nymph, lower part free, curving away and almost reaching end of hinge plate; left middle and anterior cardinals united at top. The right cardinal separate, the middle cardinal rather stout, parallel to the anterior one, posterior cardinal strong, bifid. Pallial sinus moderately deep, rounded. Ventral margin smooth.

Genotype: *Pitar* (*Nanopitar*) *pilula*, new species.

This subgenus differs from the other subgenera of *Pitar* in being smaller and more rounded and in being smooth externally. In the characters of the hinge and pallial sinus it is close to *Calpitaria* Jukes-Browne and *Tinctora* Jukes-Browne; from the latter it differs in having a smooth internal ventral margin. From *Calpitaria* it differs in having a smooth external surface and in being more orbicular.

PITAR (NANOPITAR) PILULA, new species

PLATE 19, FIGURES 5–10

Shell small, suborbicular, umbones subcentral, rather prominent, prosogyrate, external surface smooth, covered with a thin yellow-brown, deciduous periostracum. An incised line outlines the otherwise undifferentiated broad lunule. Ligament attached to an elongate sunken nymph. In the left valve the posterior cardinal is for the most part confluent with nymph, separating near the lower end and almost reaching the edge of the hinge plate; median tooth slightly broader than the anterior cardinal and joined to it at right angles under the umbo; anterior lateral strong, erect. In right valve the upper anterior lateral is slightly smaller than the lower one, from which it is separated by a pit, which is connected with the first cardinal interspace by a narrow channel at the base of the anterior cardinal; cardinals all separate. Anterior cardinal short, thin, parallel to the slightly broader median cardinal; posterior cardinal elongate, rather broad, bifid. Pallial sinus moderately deep, rounded. Internal ventral margin smooth.

The type, U.S.N.M. No. 517057, measures: Height, 5.9 mm.; length, 6 mm., breadth, 4.2 mm. It was collected by Ted Bayer in Lake Worth, Fla.

Genus ERVILIA Turton, 1822

ERVILIA ROSTRATULA, new species

PLATE 19, FIGURES 1–2

Shell small, stout, subtrigonal, rather inflated, white or yellowish, posterior end slightly rostrate, sculpture consisting of strong concentric riblets, crossed posteriorly by fine radial lines. Hinge typically erviliid.

The type, U.S.N.M. No. 517059, was collected with several others by Ted Bayer in Lake Worth. It measures: Length, 4.5 mm.; height, 3.3 mm., breadth, 2.3 mm.

This species is closest to the Bermudian *subcancellata* E. A. Smith, differing in being more inflated, more trigonal, and posteriorly rostrate and having the radial sculpture restricted more to the posterior end.

Genus ASTHENOTHAERUS Carpenter, 1864

ASTHENOTHAERUS BALESI, new species

PLATE 19, FIGURES 13–14

Shell ovate, thin, grayish white, anterior end rounded, posterior end slightly narrower and truncated, with a ridge running from the median, opisthogyrate umbo to the posteroventral angle. The early portion of the shell is sharply biangulate and evenly concentrically ribbed; in the later portion the concentric ridges become irregular folds, giving the shell a slightly rugose appearance. An elongate calcareous lithodesma, broadly angled in the middle, lies under the umbones in a spongy cartilage. Pallial sinus moderately deep.

The type, U.S.N.M. No. 536052, measures: Length, 10.5 mm., height, 7.6 mm. It was found by Dr. B. R. Bales on Missouri Key, Fla.

This species differs from the only other known West Atlantic species, *A. hemphilli* Dall, in having a more elongate-ovate shape and more central umbones.

Genus POROMYA Forbes, 1844

POROMYA ROSTRATA, new species

PLATE 19, FIGURES 11–12

Shell small, inflated, slightly inequivalve, right valve slightly larger and deeper with a more prominent umbo; broadly and irregularly ovate in shape, posteriorly rostrate, the left valve being more rostrate than the right; umbones central. External surface

densely and coarsely granulate, the granules apparently arranged in radial lines. Internally the right valve has a strong cardinal tooth that fits into a socket in the hinge of the left valve, and there is a rather stout internal ligament posterior to the tooth. The ventral margin is radially furrowed in the right valve, smooth in the left; the pallial line is simple.

The type, U.S.N.M. No. 536152, measures: Length, 7.3 mm.; height, 6.4 mm.; breadth, 5 mm. It was dredged in 70 fathoms off Delray Beach, Palm Beach County, Fla.

This differs from *Poromya granulata* Nyst and the other West Atlantic Poromyas in its rostrate form and larger, more crowded granules. It occurs from Cape Hatteras, N. C., to Barbados.

Genus CAECUM Fleming, 1813

CAECUM (CAECUM) CAYOSENSE, new species

PLATE 20, FIGURE 9

Shell white, stout, arcuate, ornamented with 14 strong annular ribs of somewhat varying size. The interspaces are of the same widths as the ribs, or wider, and are ornamented with fine axial riblets, which tend to become obscure on the annular ribs. At intervals opaque white axial lines stand out against the ground color of a more glassy white. The septum bears a rather long pointed protuberance at the edge nearest to the convex side of the shell.

The type, U.S.N.M. No. 536045, was collected by Dr. B. R. Bales at Bonefish Key, Florida Keys. It measures: Length, 3.2 mm.; width (at lowest rib), 1.3 mm.

This *Caecum* differs from all the other West Atlantic species in possessing fewer and stronger, more distantly separated ribs.

Genus FARTULUM Carpenter, 1857

FARTULUM NEBULOSUM, new species

PLATE 20, FIGURE 8

Shell small, arcuate, smooth, except for fine growth lines, vinaceous-brown, with irregular, white annular splotches of varying widths, often more or less wavy. Apex constricted, closed with an acuminate septum, the point near and directed toward the concave side of the shell. The aperture is slightly constricted, lip thin, simple. Operculum horny, circular, with many concentric whorls.

The type, U.S.N.M. No. 536042, was collected by Dr. B. R. Bales at Bonefish Key, Florida Keys, and measures: Length, 2 mm., width, 0.6 mm.

This species differs from other Antillean members of this genus in the distinctive color pattern and its broad shape, constricted at both ends.

HALOPSEPHUS,[1] new genus

Shell small, solid, broadly conical, smooth, imperforate. Operculum calcareous, externally convex, sculptured by one whorl of axial, retractively curved, rugose riblets, which begin at the elevated nuclear portion, where they do not reach the margin, and gradually lengthen and reach the margin. Since the tops of these riblets are flush with the convex surface of the operculum, the sculpture has the appearance of curved, radial, vermiculiform grooves, irregular in the center of the operculum.

Type: *Halopsephus pulcher*, new species.

This interesting genus of Turbinidae differs markedly from all other Atlantic groups in its smooth shining surface and in its peculiarly sculptured operculum. It may be near *Taenioturbo* Woodring, 1928 (genotype: *Turbo canaliculatus* Hermann), a question that the knowledge of the operculum of the latter species will help to solve.

HALOPSEPHUS PULCHER, new species

PLATE 20, FIGURES 3, 10

Shell small, solid, broadly conical, of 5¼ whorls. Nuclear whorls planate, not sharply differentiated from the postnuclear whorls, with a sharply keeled periphery, the keel bearing broad, horizontally flattened spines, giving the early whorls a stellate appearance when viewed from above; these spines disappear in the early postnuclear whorls. Later whorls convex, smooth, except for some narrow, low, more or less obscure, spiral ridges in the supraperipheral area, appressed in the sutural region to the preceding whorl. The nuclear whorls are pale scarlet, the later whorls becoming cinnamon-rufous to apricot-orange, lighter on the base. There are irregular radial white maculations running from the suture down over half of the supraperipheral area, and other white spots of various shapes in numerous spiral rows of different widths over the whole shell; on the periphery and also below the periphery are rows of white maculations, for instance, that resemble Arabic characters. Umbilical region indented but imperforate. Aperture circular, outer lip thin, simple; columellar lip evenly curved, thickened, slightly reflexed. Operculum as in generic diagnosis above.

The type, U.S.N.M. No. 500638, measures: Height, 11.2 mm.; breadth, 11 mm. It was dredged off Lazaretto, Barbados, in shallow

[1] ἁλός, sea + ψῆφος, pebble.

water on rocky bottom by John B. Henderson, Jr., while on the Smithsonian–University of Iowa 1918 Expedition. A second smaller specimen was collected on the same trip off Payne's Bay Church, Barbados, in 50 fathoms on sandy and stony bottom.

Genus ARENE Adams, 1854

ARENE RIISEI, new species

PLATE 19, FIGURES 17–18

1878. *Liotia riisei* Dunker, POULSEN, Catalogue of West-India shells, p. 13 (*nomen nudum*).

1934. *Liotia* (*Arene*) *riisei* JOHNSON, Proc. Boston Soc. Nat. Hist., vol. 40, No. 1, p. 77 (*nomen nudum*).

Shell small, solid, turbinate, white with deep rose splotches and streaks. Whorls 4¾, the first 2¼ comprising the nucleus, white, smooth, the following whorls sculptured in the following manner: Below the suture are four spiral rows of beads, the second being larger than the others. Below this are four raised knobbed keels with one row of beads between the first and second keel, and two rows of beads between both the second and third, and third and fourth keels. Below the fourth keel are two rows of small beads followed by four rows of rather large beads. Around the umbilicus is a series of large nodules and entering into the deep narrow umbilicus from the columellar edge of the lip are two nodulose cords. In places may be seen fine crowded axial threads, more or less effaced and obscure. The interior of the aperture is ornamental with several elongated denticles.

The type, U.S.N.M. No. 42858, was collected at St. John, Virgin Islands, and may very possibly have come from Mörch. It measures: Height, 4.7 mm.; breadth, 5.2 mm.

This species is very near to *Arene brasiliana* Dall, from off Cape Roque, differing, however, in that the spiral nodulose cords are more numerous and the final axial threads less conspicuous.

The name "*Liotia*" *riisei*, generally accredited to Dunker, has appeared on lists for a great number of years but has apparently never been described, a state of affairs I am here remedying.

ARENE VANHYNINGI, new species

PLATE 19, FIGURES 15–16

Shell of medium size for the genus, depressed-conical, the main portion of the upper surface of the whorls yellowish gray, the stout stellate peripheral keel white, and the under surface of the shell grayish white. The nuclear whorls are missing, but the four remaining whorls have a conspicuous sutural canal, and the upper surface of the whorls is obscurely axially rugose, the low broad folds

often knobbed at the edge of the sutural channel. On the early whorls there are some axially directed rose spots, as in *A. cruentata*, but on the later whorls these become straw brown and much reduced. At the periphery is an acute keel, provided with large, regular, anteriorly hollow, triangular spines, which increase in size toward the aperture, giving the shell much the appearance of an *Astraea*. On the periphery, just below this keel, is a narrow spiral cord with regular, small, low, anteriorly hollow scales, and below this is a minutely serrate keel. The channels between these keels are sculptured with fine axial threads. Below the last keel the flattened base is sculptured with four low beaded cords. Two broad cords enter the narrow, deep umbilicus. The slightly expanded circular aperture is thicker externally; interior with a yellowish pearly luster. The operculum is typical, multispiral, concave, the whorls ornamented with crowded, radially elongated, calcareous beads.

The type, U.S.N.M. No. 536054, was collected on Sand Key, 8 miles south of Key West, by G. W. Van Hyning. It measures: Height, 8.7 mm.; breadth, 10.8 mm.

This species is obviously related to *Arene cruentata* Mühlfeld, but has a different color pattern and the microscopic axial threads are absent. The rugose axial sculpture on the upper surface of the whorls is also less conspicuous and less regular.

MICRODOCHUS,[2] new genus

Shell very small, broadly ovate-conic; nuclear whorls smooth, postnuclear whorls convex, finely spirally lirate, somewhat appressed at the suture to the preceding whorl with a consequently rather shallow suture. Umbilicus narrow but distinct, aperture ovate, slightly oblique, outer lip simple, columellar portion slightly reflexed.

Type: *Microdochus floridanus*, new species.

This genus of Rissoidae seems closest to *Onoba* Adams, 1852, differing markedly from it in being ovate-conic and not cylindrical, in having a shallower suture and a more open umbilicus, and in never having axial riblets.

MICRODOCHUS FLORIDANUS, new species

PLATE 20, FIGURE 6

Shell very small, ovate-conic, rather thin, light horn colored. Whorls 4¼, nuclear whorls smooth, not marked off from postnuclear whorls, which are convex and finely and evenly spirally lirate, the sculpture commencing imperceptibly; the whorls are slightly appressed to the preceding whorl at the suture, which is therefore not

[2] μῑκρός, minute + δοχός, container.

deep. There is a rather sharp keel around the moderately narrow umbilicus. Aperture ovate, slightly oblique; outer lip simple, columellar portion narrowly reflected and curving gently into the callus on the parietal wall. Operculum thin, ovate, transparent; nucleus excentric.

The type, U.S.N.M. No. 536048, measures: Height, 2.4 mm.; breadth, 1.6 mm., and was collected on Bonefish Key, Florida Keys, by Dr. B. R. Bales.

Genus RISSOELLA Gray, 1847

PHYCODROSUS,[3] new subgenus

Differs from *Rissoella* s. s. by being more broadly ovate and in being umbilicated, the umbilicus surrounded by a sharp keel. From *Jeffreysina* Thiele, 1925, it differs in being more slender and having a narrower keeled umbilicus.

Type: *Rissoella* (*Phycodrosus*) *caribaea*, new species.

This is the first record of the family Rissoellidae from the West Atlantic and also the first species from the tropical Atlantic. I am recognizing *Jeffreysina* as a distinct genus because of its turbinate shape and broad umbilicus.

RISSOELLA (PHYCODROSUS) CARIBAEA, new species

PLATE 20, FIGURE 7

Shell minute, broadly ovate, transparently glassy; whorls 4⅛, convex, suture shallow, surface smooth, except for very fine hairlike, irregularly and distantly spaced, growth lines. Umbilicus narrow, surrounded by a sharp keel. Aperture ovate-semicircular. Outer lip thin, simple; inner lip reflexed at the base, the columellar portion making a straight line with the callus on the parietal wall. Operculum thin, transparent, semicircular, nucleus near the center of the inner edge, surrounded by concentric growth lines. Central radial lamella faintly visible from the exterior.

The type, U.S.N.M. No. 536046, measures: Height, 1.5 mm.; breadth, 1 mm. It was collected by Dr. Bales at Bonefish Key, Fla.

Genus CREPITACELLA Guppy, 1867

CREPITACELLA VESTALIS, new species

PLATE 20, FIGURE 13

Shell relatively large, ovate, yellowish white. Nucleus consists of not quite two bulbous glassy whorls. Postnuclear whorls 7, convex, separated by a deep suture, sculptured with axial ribs and slightly

[3] φῦκος, seaweed + δρόσος, dew.

wavy, spiral striation; the axial ribs are obscurely nodulose at the angulated shoulder of the whorls, which becomes obscure towards the last whorl, the axial ribs tending to evanesce near the periphery. Anal fasciole broad, surrounding a very minute umbilical chink.

The type, U.S.N.M. No. 411896, measures: Height, 10.8 mm.; breadth, 5.3 mm. It was dredged by John B. Henderson, Jr., in 40 fathoms off Ajax Reef, Fla. We possess this species also from Miami to Conch Reef, and Frank Lyman has lately dredged it in 18–35 fathoms off Yamato between West Palm Beach and Fort Lauderdale, Fla.

This shell is broader than the other recent Crepitacellas, i. e., *gabbi* Dall, *columbella* Dall, and *leucophlegma* Dall (described as a *Daphnella*), and less strongly shouldered and axially sculptured than *gabbi* Dall. *C. leucophlegma* is not angulate at the shoulder. *Dolophanes* Gabb, 1872, is a synonym of *Crepitacella*.

Genus PERISTICHIA Dall, 1889

PERISTICHIA AGRIA Dall

PLATE 20, FIGURE 4

1889. *Peristichia agria* DALL, Bull. Mus. Comp. Zool., vol. 18, p. 340.

This species has never before been figured, and in lieu of a figure of the type, which is at present unavailable, I have used a specimen collected by Dr. B. R. Bales on Bonefish Key, Fla.; it has also been collected on Key Vaca.

Originally proposed as a genus of dubious affinities, Dall later placed *Peristichia* in the Pyramidellidae near *Oscilla*. Bartsch (Proc. Biol. Soc. Washington, vol. 17, p. 9, Feb. 5, 1904) considered it a subgenus of *Turbonilla*. Thiele, 1929, does not mention it at all, and Wenz (Handb. Paläozool., vol. 6, p. 874, 1940) lists it as a subgenus of *Turbonilla* with a question. An examination shows that it is a pyramidellid close to *Triptychus* and should be accorded full generic rank. It differs from *Triptychus* in having only one basal entrant spiral cord, instead of two, and in lacking columellar folds.

Besides *P. agria* and the type of the genus, *P. toreta* Dall, the only other known species is *Ividella pedroana* Dall and Bartsch, 1909, from southern California, *P. agria* differing from it in being more slender, white instead of cinnamon, and with more delicate sculpture.

The West Atlantic form commonly listed as *Oscilla biseriata* Gabb or *nivea* Mörch should be known as *Triptychus niveus* Mörch, 1875. *Oscilla* is a distantly related Japanese group, while *biseriata* Gabb is a probably related species of *Triptychus* from the Pliocene of Costa Rica. The description of this species, by the way, was published in 1881, not 1874 as given in Johnson's list.

GLYPHEPITHEMA,[4] new genus

Shell globose, spire short, whorls smooth, except for subobscure, axial, retractively curved furrows on the upper portion of the penultimate whorls; last whorl flattened below the suture, covered by a thin brownish periostracum, which is strongly wrinkled below the suture. Color pale gray-brown to white, encircled by four narrow bands of deep chestnut spots on a white ground. Umbilicus broad, with a stout funicle. Operculum with a variously shaped nuclear callus, after which comes a broad rib formed by the rather complete fusion of two or three smaller ribs. Between this rib and the outer margin lie several smaller, unequal ribs, the outer ones usually variously sculptured and often joined at the top by a sculptured calcareous deposit roofing over the interspaces.

Genotype: *Natica idiopoma* Pilsbry and Lowe, 1932.

This naticid genus is closest to *Stigmaulax* Mörch, having a rather similar operculum and umbilical region. The operculum does differ, however, and the shell is not strongly sculptured as in *Stigmaulax*. This group has a fossil history parallel to that of *Stigmaulax*, for Woodring (Miocene Mollusks from Bowden, Jamaica, pt. 2, Carnegie Inst. Washington Publ. 385, p. 382, pl. 30, fig. 9, 1928) figures an operculum that undoubtedly belongs to an as yet undiscovered species of this genus occurring in the Miocene of the Antillean region.

Besides the genotype, which occurs from Cape St. Lucas to Panama, this group includes the closely related *G. floridana*, described below, and *Natica turtoni* E. A. Smith from St. Helena. *Natica alapapilionis* Roeding from the Philippines and India also seems to belong here, a fresh specimen from Ilo Ilo agreeing generically in every particular except for a slightly atypical operculum. *Natica broderipiana* Recluz from the Gulf of California to Panamá may also be placed here, although it more strongly sculptured and the operculum is not quite normal. The presence of a Philippine species in this otherwise zoogeographically homogeneous group seems anomalous, and perhaps a study of the radulae and anatomy of the species under discussion may reveal a difference in the Indo-Pacific member.

GLYPHEPITHEMA FLORIDANA, new species

PLATE 19, FIGURES 19–21

Shell globose, stout, last whorl very large, spire small, conical. Nucleus of 2½ whorls sculptured with microscopic spiral lines, the following postnuclear whorls smooth except for rather deep, retractively slanting, axial grooves, which reach only to the shoulder; post-

[4] γλύφω, to carve, engrave+ἐπίθημα, lid.

nuclear whorls covered with a rather persistent, yellowish-brown periostracum, which is axially wrinkled by parallel ribletlike folds, which are especially strong near the suture, and run to the umbilical region. Four bands of rather regular, distantly spaced, oblong, chestnuts spots on a white base surround the last whorl, one each on the shoulder and periphery, and two below the periphery. Between the first and second bands and third and fourth bands there are brown bands, the upper one broader than the lower one; the ground color on the rest of the shell is yellowish white. In the umbilicus is a moderately broad funicle ending in a heavy white callous pad. Aperture semicircular. Operculum with a smooth, somewhat concave, nuclear callus, elevated toward the outer edge (away from the columellar side); this is followed by a broad and then a narrow rounded rib; after a straight-sided, rather wide interspace comes a rib which is joined to the following two thin lamellae at the top by an irregular, calcareous deposit formed of fused radial elements which are swollen over the first thin lamella. At the marginal edge this deposit is pinched up into an irregularly nodulose crest.

The type, U.S.N.M. No. 517060, measures, height, 14.8 mm., breadth, 14.7 mm. It was collected at Peanut Island in Lake Worth, Fla., by Ted Bayer.

Genus OOCORYS Fischer, 1883

OOCORYS BARTSCHI, new species

PLATE 20, FIGURE 16

Shell large, ovate, inflated, pale flesh colored. Nucleus broken and worn but apparently consisting of 1.5 smooth whorls. Postnuclear whorls 6+, convex, spirally corded, the cords on the later whorls becoming flattened and equidistantly spaced. On the second postnuclear whorl the subsutural area becomes constricted and somewhat appressed to the preceding whorl. In the last two or three whorls this area is slightly concave and sculptured with finer spiral cords. The spiral sculpture is crossed by very fine axial growth lines. Aperture elongate-ovate, oblique, outer lip expanded and reflexed, the reflexed lip made slightly wavy by the ends of the spiral cords, inner lip forming a thin glaze over the parietal wall and a slightly heavier one, with a free edge, on the entire length of the columellar area. Anterior canal rather broad, slightly recurved. Operculum horny, ovate, much smaller than the aperture, with a basal marginal nucleus and many fine concentric growth lines.

The type, U.S.N.M. No. 535689, was dredged in 79 to 140 fathoms south of Tortugas on July 2, 1932, by Dr. W. L. Schmitt. It measures: Height, 111.7 mm.; breadth, 71.7 mm.

This species is more than twice as large as the most closely related species, *Oocorys barbouri* Clench and Aguayo, from off northern Cuba, and is, moreover, more inflated, is without a color band, and has no beaded spiral cord on the shoulder.

A second, slightly smaller specimen, U.S.N.M. No. 417859, came from the Henderson collection and is labeled merely Florida.

PSAROSTOLA,[5] new genus

Shell small, slender. Nucleus inflated, glassy white, smooth, of 1½ whorls. Sculpture on postnuclear whorls consists of rather narrow ribs crossed by strong spiral cords which form nodules on crossing the ribs. Anterior canal hardly noticeable, siphonal fasciole weak. Aperture narrow; interior of outer lip denticulate, with a moderately narrow sinus below the suture; inner lip smooth.

Type: *Columbella monilifera* Sowerby, West Indies.

This genus is apparently near *Nassarina* Dall and *Cigclirina* Woodring but differs from them in that no attenuation of the base into an anterior canal is noticeable on the outer lip, being more like *Zanassarina* Pilsbry and Lowe, 1932, in this respect; from this it differs in the smaller, more inflated nucleus. *Anachis tincta* Carpenter from Cape San Lucas, Baja California, is apparently a member of this genus.

PSAROSTOLA MONILIFERA SPARSIPUNCTATA, new subspecies

PLATE 20, FIGURE 11

Differs from the typical species in the reduction of the chestnut spotting on the whorls. Instead of the upper three spiral cords being elongately maculated, only the two upper cords are furnished with short spots and alternate axial ribs. Likewise, the spotting is weaker below the periphery on the last whorl. The shell is usually somewhat broader in outline, and the axial ribbing may be a little stronger than in the typical form.

The type, U.S.N.M. No. 450778, measures: Height, 4.9 mm.; breadth, 2.1 mm. It was collected by John B. Henderson, Jr., in 45 fathoms southeast of Fowey Light, Fla., at *Eolis* Station 357. In our collection we have other specimens from the Florida Keys and from the north coast of Cuba.

This subspecies is therefore restricted to the region about the Straits of Florida, while typical *monilifera* we possess from Bermuda, Jamaica, and Haiti.

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[5] ψαρός, maculated + στολή, robe.

BARTSCHIA, new genus

Shell large, solid, elongate-ovate. Nucleus dome-shaped, consisting of 3¼ smooth whorls. Postnuclear whorls sculptured with crowded spiral cords crossed by close axial riblets, which give the surface a closely nodulose appearance. Aperture pointed at the posterior angle, and broadly channeled at the anterior end. Anterior canal somewhat recurved. Outer lip internally thickened, the thickening bearing a row of denticles. Columella and parietal wall covered by a smooth callus.

Type: *Bartschia significans*, new species.

This group has recently been assigned to *Metula* by Clench and Aguayo (see below under description of genotype), but it does not belong to that genus. The type of *Metula* H. and A. Adams, 1853, must be *M. clathrata* Adams and Reeve (subsequent designation, Kobelt, Illustr. Conchylienbuch, vol. 1, p. 38, 1876), a Panamic species (see Tomlin, Journ. Conch., vol. 18, No. 6, p. 160, 1927). Woodring now believes that his conclusion as to the type of *Metula* (Carnegie Inst. Washington Publ. 385, p. 286, 1928) was unfortunate and that a tautonymic type designation cannot strictly and validly be maintained. The *Metula* of Woodring (op. cit., p. 285) and other authors is here given the new name **Antemetula** Rehder; gentoype: *Buccinum metula* Hinds.

From this group *Bartschia* differs in its larger size and broader aperture, which is not attenuated anteriorly, and in possessing a blunt nucleus. From *Metula* our genus differs in being more fusiform, with a longer spire and shorter, broader aperture not anteriorly attenuated.

It is with much pleasure that I name this striking group for my mentor and colleague, Dr. Paul Bartsch, whose Antillean explorations have so greatly advanced our knowledge of this region.

BARTSCHIA SIGNIFICANS, new species

PLATE 20, FIGURE 17

Shell large, solid, elongate-ovate. Nucleus bulbous, smooth, of 3¼ whorls. Postnuclear whorls about 5½, convex, sculptured by closely spaced spiral cords (8 on the first postnuclear whorl), crossed by regular axial riblets, which gives the first 2½ whorls a latticed appearance; thereafter finer spiral threads begin to be intercalated between the cords until on the last whorl the spiral cords are of irregular varying strength. Color yellowish white, irregularly maculated with varying shades of light chestnut. Last whorl descending but rising again at the aperture where there is a low broad external

varix. Aperture broadly fusiform, pointed above, terminating below into a short broad canal. Outer lip evenly arcuate, internally thickened, the thickening beset with short denticles decreasing anteriorly in size. Parietal wall and columella covered with a smooth callus. Anterior canal short, somewhat recurved, siphonal fasciole indistinct.

The type, U.S.N.M. No. 516493, was dredged by Dr. Paul Bartsch off the Tortugas, Fla. It measures: Height, 54.5 mm.; breadth, 22.3 mm.; height of aperture, 26 mm.

In our collection are three other specimens collected in 75–100 fathoms from south of Key West, off Sand Key.

The only other species of this genus is that described as *Metula agassizi* Clench and Aguayo (Mem. Soc. Cubana Hist. Nat., vol. 15, pp. 179–180, 1941) from off the north coast of Cuba, from which it differs in being stouter, not basally attenuated and in being externally colored, not white. *Metula fusiformis* Clench and Aguayo (loc. cit.), with its different nuclear characters, belongs to another genus.

Genus PUSIA Swainson, 1840

PUSIA HENDERSONI, new species

PLATE 20, FIGURE 12

Shell of medium size, broadly fusiform, rather stout. Nucleus narrowly conical, consisting of 4–4½ whorls, which are straight-sided, smooth, glossy, pale fuscous to straw yellow. Postnuclear whorls (about 7 in the type) convex, sculptured with strong axial ribs, and low, subobsolete spiral ridges. Basically the coloration consists of a narrow subperipheral band of white, above which the whorls are usually pale yellowish white or occasionally darker; below the subperipheral band the whorls are fuscous to vinaceous-brown. The columella bears four plaits, which increase in strength toward the uppermost one. These plaits are continued externally as spiral cords on the moderately long anterior canal. Outer lip simple, internally lirate deep within the aperture.

The type, U.S.N.M. No. 414359, measures: Height, 14.8 mm.; breadth, 6.4 mm. It was dredged in 30 fathoms off Bears Cut, Miami, Fla. There are numerous other lots in the collection from Miami to Sand Key, near Key West, Fla.

This species varies slightly in coloration as mentioned above and in the strength of the spiral sculpture; it may also be more slender.

It is closest to *Pusia cubana* Aguayo and Rehder, but the whorls are more convex and the spire is more elongate and straight-sided; *P. cubana* is strictly bicolored and there is never a subperipheral band noticeable.

Other Antillean species that belong in *Pusia* are the genotype *P. sulcata* Gmelin (=*microzonias* Lamarck), *histrio* Reeve, *trophonia* Dall, and *albocincta* C. B. Adams. Three other West Indies species that belong here, but have stronger spiral sculpture, are *P. pulchella* Reeve, *variata* Reeve, and *dermestina* Lamarck.

PUSIA EPIPHANEA, new species

PLATE 20, FIGURE 14

Shell in general similar to *P. hendersoni* but larger (apex broken, but 9 postnuclear whorls remaining), with spiral sculpture somewhat more obsolete and the subperipheral white band more conspicuous; below the band the shell is chocolate-brown and above the white band the color is chocolate-brown between the axial ribs, fading to pinkish on the ribs and becoming yellow just below the suture; on the penultimate whorls the color is in general fainter.

The type, U.S.N.M. No. 414278, measures: Height, 23.7 mm.; breadth, 9 mm. It was dredged in 15 fathoms off Tortugas, Fla., by John B. Henderson, Jr.

Genus PUSIOLINA Cossman, 1921

This group, proposed as a substitute for *Pusiola* Monterosato, 1917, not Wallengren, 1863, with the type *tricolor* Gmelin from the Mediterranean, was considered by Monterosato to be a genus distinct from *Pusia*. Thiele, however (Handb. Syst. Weichtierk., vol. 1, p. 337, 1929), gave it only sectional value under *Pusia*. An examination of the nuclear whorls of these two groups forces us to accept Monterosato's dictum and *Pusiola* with its bulbous nucleus of one to one and a half whorls must be restored to generic rank, distinct from *Pusia*, which has a narrowly conical, straight-sided nucleus of about four whorls. *Mitra hanleyi* Dohrn and *gemmata* Sowerby from the Caribbean region may be placed here, agreeing in general character with the genotype but having four columellar folds instead of three. Until the radular characters are elucidated these species had better not be separated solely on the difference in the number of folds. Here we may also place the following new species.

PUSIOLINA ARESTA, new species

PLATE 20, FIGURE 1

Shell rather large for the genus, narrowly ovate. Nucleus bulbous, consisting of 1¾ convex whorls, the first 1½ whorls brown, the last half gradually becoming glassy gray. The following 5¾ whorls slightly convex, subsuturally somewhat flattened, distantly axially ribbed, and only very obscurely axially grooved. Color straw

yellow or darker, with a peripheral band of white more or less obscurely and narrowly margined above and below with chestnut, and with dark chestnut maculations between the ribs. Columella bearing four plaits which are continued as cords on the short anterior canal; above these cords are one or two obscure, slightly nodulose ones.

The type, U.S.N.M. No. 517056, measures: Height, 10 mm., breadth, 4.7 mm. It was collected in 3–6 fathoms at Santa Rosa on the north coast of Pinar del Río, Cuba, during the *Tomas Barrera* Expedition. Three paratypes were collected at the same place, and one specimen was found at La Esperanza, Pinar Del Río, Cuba.

Genus FENIMOREA Bartsch, 1934

FENIMOREA MOSERI BRUNNESCENS, new subspecies

PLATE 20, FIGURE 5

Similar in shape and nature of axial and spiral sculpture to typical *Fenimorea moseri* (Dall) from the lower west coast of Florida, but of a uniform light vinaceous-cinnamon color (Ridgway's Color Standards), except for the two glassy white nuclear whorls.

Type, U.S.N.M. No. 517055, measures: Height, 23 mm.; breadth, 8.4 mm. It was dredged in 14 fathoms off Fort Walton, Okaloosa County, Fla., by Maxwell Smith.

This is an interesting race from the coast of the "panhandle" of Florida, a conchologically little-known region.

Genus CRASSISPIRA Swainson, 1840

CRASSISPIRA (CRASSISPIRELLA) MESOLEUCA, new species

PLATE 20, FIGURE 15

Shell solid, elongate-ovate, with a narrowly conic spire. Nucleus low, rounded, of almost 2 smooth whorls. Postnuclear whorls axially ribbed, the ribs crossed by spiral cords, which on the later whorls become slightly nodulose and whitish where they cross the axial ribs; fine threadlike striae are found in the spaces between the stronger spiral cords and between the shoulder of the whorls, where the axial ribs end, and the suture; in this space there is also a rather strong subsutural keel. The color is usually of varying shades of chestnut, becoming occasionally almost blackish and rarely yellow; the ends of the ribs at the shoulder are decidedly whitish and the subsutural area may be lighter in color. Aperture narrow, outer lip with a deep sinus between the subsutural keel and the shoulder. Anterior channel rather broad and rather shallow; a trace of a stromboid notch is evident. Basal fasciole weak, closely spirally corded.

The type, U. S. N. M. No. 411906, was collected by John B. Henderson, Jr., on Looe Key Reef, Fla , and measures: Height, 16.6 mm.; breadth, 6.6 mm. Specimens in our collection show that this species is restricted, as far as is known, to the lower Florida keys, from Biscayne Bay to the Tortugas.

This species is distinguished from the other Antillean members of this group by its broader form, shorter spire, and distinctive white spotting of the upper part of the axial ribs.

Genus PYRGOCYTHARA Woodring, 1928

PYRGOCYTHARA FILOSA, new species

PLATE 20, FIGURE 2.

Shell rather small, elongate-ovate, solid. Nucleus dark brown, globose, 1½ whorls, the first 1¼ whorls smooth, the following ¼ whorl with fine, closely spaced, axial riblets. The postnuclear whorls are strongly axially ribbed (10 on the penultimate whorl), the ribs strongly angled at the shoulder; in the early whorls a spiral cord occurs on the shoulder, and there are several below; on the last two whorls these spiral cords increase in number but at the same time become obscure. Color brown except for a rather broad, spiral, yellowish white band on the shoulder of the whorls. Aperture somewhat narrow; outer lip internally thickened under the varixlike axial rib, posterior sinus broad, as is the anterior channel. Interior brownish in color.

The type, U.S.N.M. No. 27637, measures: Height, 6.5 mm., breadth, 2.8 mm. It was collected by Henry Hemphill at Marco, Fla. There is one paratype from the same lot.

This species differs from the only other described recent species of *Pyrgocythara* (*P. hemphilli* Bartsch and Rehder, 1939) in being smaller and in having a different color pattern.

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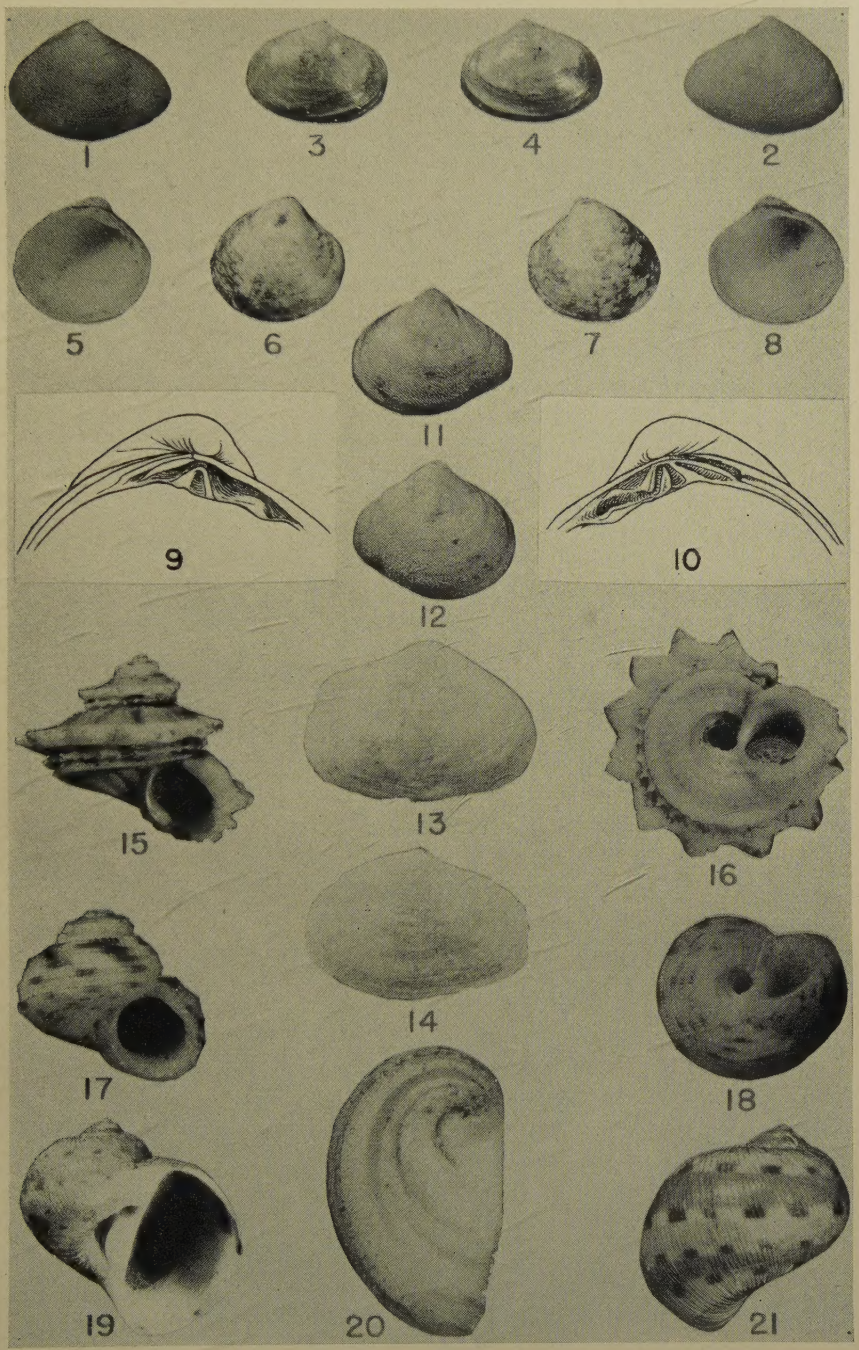
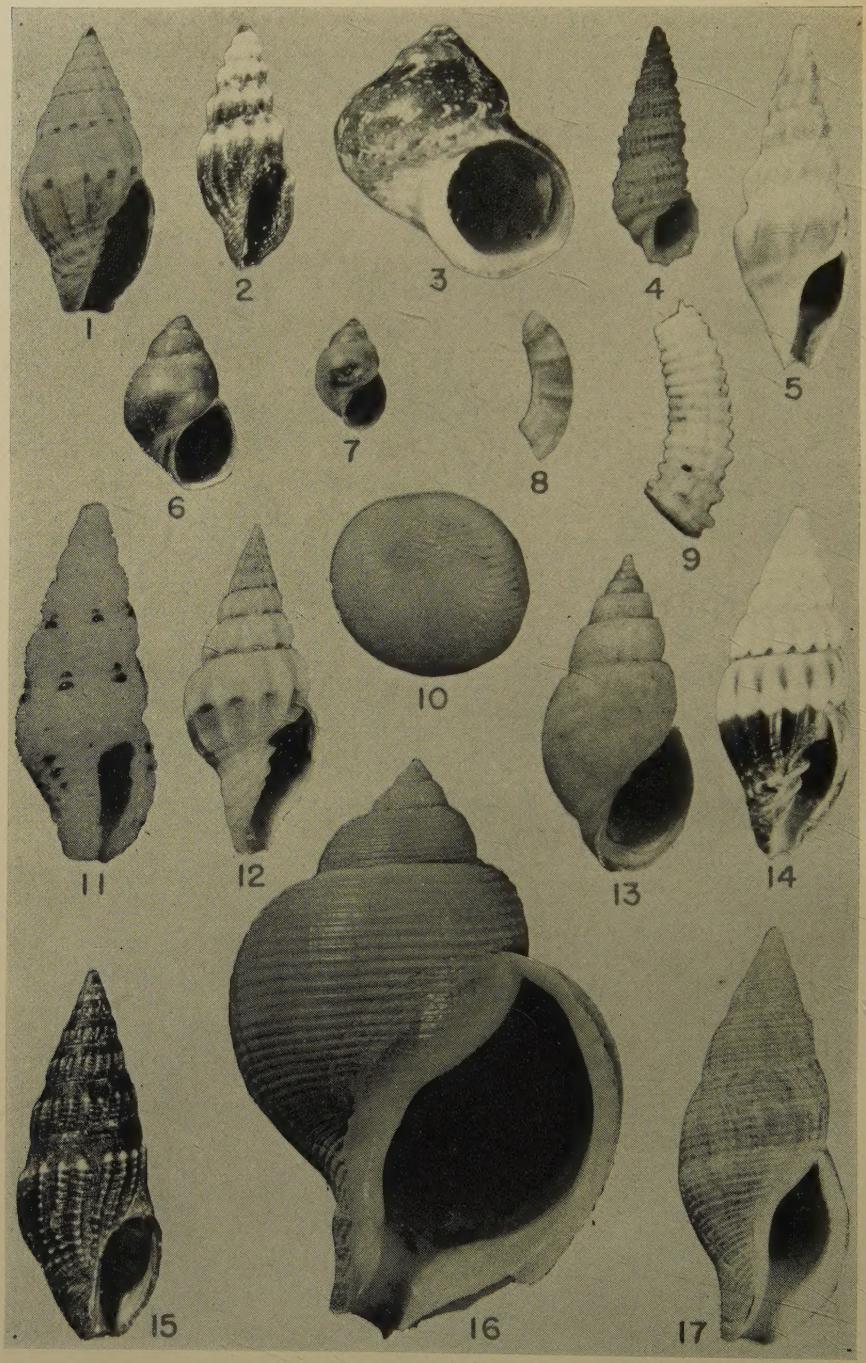


NEW ANTILLEAN MOLLUSKS.

1, 2, *Ervilia rostratula;* 3, 4, *Cooperella atlantica;* 5–10, *Pitar* (*Nanopitar*) *pilula* (9, 10: hinge); 11, 12, *Poromya rostrata;* 13, 14, *Asthenothaerus balesi;* 15, 16, *Arene vanhyningi;* 17, 18, *Arene riisei;* 19–21, *Glyphepithema floridana.*



NEW ANTILLEAN MOLLUSKS.

1, *Pusiolina aresta;* 2, *Pyrgocythara filosa;* 3, *Halopsephus pulcher;* 4, *Peristichia agria* Dall; 5, *Fenimorea moseri brunnescens;* 6, *Microdochus floridanus;* 7, *Rissoella* (*Phycodrosus*) *caribaea;* 8, *Fartulum nebulosum;* 9, *Caecum* (*Caecum*) *cayosense;* 10, *Halopsephus pulcher* (operculum); 11, *Psarostola monilifera sparsipunctata;* 12, *Pusia hendersoni;* 13, *Crepitacella vestalis;* 14, *Pusia epiphanea;* 15, *Crassispira* (*Crassispirella*) *mesoleuca;* 16, *Oocorys bartschi;* 17, *Bartschia significans.*